

Exam Project 2/SS13, *AutoCAD-Writer*

Within this project a DLL extension module for AutoCAD should be developed, to implement new commands to automatically draw a two- and three dimensional drawing of a plate with some holes.

Geometric System

The geometric system, the plate with holes, is given by the first project.

New Commands

The following new commands for AutoCAD have to be implemented.

- *createPlate*,
to draw the plate with three views (top-, side- and front view) with it's dimensions.
- *createSolidPlate*,
to create and draw the plate with it's holes as a three dimensional model.

To do this, the parameters should be read from the EXCEL input file, which is written by the console application of the first project. Information about that you'll find in our example of the lecture (see also the script). To create an AutoCAD drawing from an EXCEL parameter file you have to use the *EXCEL* and *AutoCAD* type library from the C# language.

It's recommended to use parts of the code we have developed in the lecture. Please don't forget the error checking in the code. The code should be able to detect wrong input data and should also be able to handle special cases.

The Report

The report for this project should content a section, which describes the theory of the problem. One section should describe the usage of the developed program (like a user's manual for the the most stupid user) and one section should describe the code (like a programmer's guild), discussing the interfaces to the used functions and class members. Classes have to be discussed in terms of UML diagrams. Algorithms should be descussed in terms of flow charts.

And don't forget the layout, it should be nice and clear. Everything should be readable, so please don't copy bad pictures from the net.

... **and very important:**

- Only pdf files are accepted, so please don't submit word files or something like that!
- Both projects for **CAD** should be submitted in **one** archive file.
- Only *zip* or *rar* archive files are accepted with the following name convention
CAD-[Semester]-[your name]-[the version].[zip/rar]

How to get a Project

Every student will get her/his own plate geometry. So it's allowed to work together, but every student has to write her own report. So if you want to start with the project, please get familiar with the stuff, we have developed in our lecture and which is also available on the info.server. Then you should make an appointment with me, to get your very personal and special project.

Some Implementation Details

The DLL extension module for AutoCAD has to be written in C# language. The EXCEL file format is arbitrary and has to fit with the extension of the written file, i.e. **xls** for the old EXCEL format up to 2003 and **xlsx** for the new EXCEL format starting with version 2007.